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## Hemostasis With Absorbable Material in Operations on the Foot

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THE smaller an operative wound area, the more difficult the control of capillary bleeding. Oozing of blood from cancellous bone after resection of an exostosis or partial removal of the condyle of a phalanx of a metatarsal bone has always been a difficult problem in operations on the foot. A similar problem is encountered in operations on soft tissues and in dissection of loose pieces of bone from connective tissue. The bleeding not only interferes with the surgeon's view, but forms tiny pools which hamper wound healing.

The bleeding capillaries may be too small to be caught and ligated, and if the oozing originates from cancellous bone the capillaries may be inaccessible for clamping and ligation. Pressure applied to the bleeding surface may help somewhat, and a pressure bandage after the wound is closed may control the minute hemorrhage. But these measures have only limited value; and, as to a compression bandage over a dressing, there is the disadvantage that it may become too tight and cause pain.

Oxidized cellulose gauze and absorbable gelatin sponges offer a very welcome solution to the problem. Either of these substances may be placed in the wound to stop bleeding and left there to be absorbed eventually by the tissues.

### TECHNIQUE

A pledget of the proper size is cut from the material in bulk, placed on the bleeding surface and pressed down by the gloved finger covered with sterile gauze. It will stick to the wound and absorb the oozing blood. Left in place and the wound closed

over it, it will gradually be absorbed and disappear from the tissues.

In cases in which it is desirable to put thrombin or penicillin into the wound, this may be done by immersing the gelatin sponge pledget in a solution of either or both of these drugs before it is pressed into place and the wound closed over it. The thrombin solution used by the author is made by dissolving 1,500 units of thrombin powder in 15 cc. of normal saline solution. If an antibiotic is indicated, penicillin is added, 200 units or more to each cubic centimeter of the thrombin-saline solution.

The author has used oxidized cellulose gauze and absorbable gelatin sponges, in the manner described, in bunionectomy, arthrectomy, sesamoidectomy, calcaneal exostotomy and a variety of other operative procedures on the foot. In no case was delay in wound healing or other complication encountered.

### SUMMARY

Oxidized cellulose gauze and absorbable gelatin sponges may be pressed into small operative wounds in the foot to control capillary ooze of blood that otherwise presents difficulties in such procedures.

The material may be left in place to be absorbed by the surrounding tissues after the wound is closed over it.

Pledgets of gelatin sponge soaked in solutions of thrombin or penicillin or both may be used to hold these drugs within a wound if use of them is indicated.

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